

What is claimed is:

1. An LPCVD apparatus comprising: a container for accommodating an organometallic compound, said compound
5 serving as a raw material; a heating means for heating the container and vaporizing the organometallic compound to obtain a raw material gas; a reactor for accommodating a substrate on which a thin film being precipitated; an exhaust pump for maintaining a low pressure atmosphere
10 within the reactor; and a trap provided on the upstream of the exhaust pump and cooling used raw material gas supplied from the reactor,

wherein said trap is provided with honeycomb-structure cylindrical fillers in a flowing passage through
15 which the used raw material flows.

2. The LPCVD apparatus according to claim 1, wherein the length of the honeycomb-structure cylindrical fillers is in a range of 0.01 to 1.0 m in a direction along which the
20 used raw material flows.

3. The LPCVD apparatus according to claim 1 or 2, wherein the honeycomb-structure cylindrical fillers have holes with a maximum diameter of 0.5 to 10 mm.

4. The LPCVD apparatus according to claims 1 to 3,

wherein said apparatus is provided with a trap-pressure-regulating valve for adjusting the internal pressure in the trap, said regulating valve being located between the trap and the exhaust pump.

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5. The LPCVD apparatus according to claims 1 to 4, wherein said apparatus is provided with a back-flow valve for preventing a back flow of the used raw material in the trap, said back-flow valve being located between the reactor and the trap.

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6. The LPCVD apparatus according to claims 1 to 5, wherein said apparatus is connected with a first and a second pipes and provided with a by-pass pipe which bypasses the trap, said first pipe connecting the reactor and the trap and said second pipe connecting the trap and the pump.

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7. The LPCVD apparatus according to claims 1 to 6, wherein said by-pass pipe is provided at the both ends thereof with a back-flow valve.

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8. A method of manufacturing a thin film with the use of the LPCVD apparatus, said apparatus defined in claims 1 to 7, wherein an internal pressure in the trap is kept equal to or lower than that in the reactor.

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